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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/337,040 06/28/99 SUGITA

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NEW YORK NY 10112

EXAMINER

NGUYEN, H

ART UNIT

PAPER NUMBER

2851

DATE MAILED:
01/03/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/337,040

Applicant(s)
Sugita et al

Examiner
Nguyen, Hung Henry

Group Art Unit
2851



☒ Responsive to communication(s) filed on response filed 8/17/2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-84 is/are pending in the application.

Of the above, claim(s) 1-12, 26-37, 51-62, 76-82, and 84 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 13-25, 38-50, 63-75, and 83 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claims 1-84 are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2851

DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of group II (claims 13-25, 38-50, 63-75 and 83) in Paper No. 8 is acknowledged. The traversal is on the ground(s) that "they are so closely related in the filed of mask pattern". This is not found persuasive because as indicated by Examiner Saleha Mohamedulla in the restriction requirement dated July 18, 2000, the claimed method can be practiced with a materially different apparatus and the apparatus as claimed can be used to practice another and materially different process such as controlling on axis and off axis of an illumination optical system.

The requirement is still deemed proper and is therefore made FINAL.

2. This application contains claims 1-12, 26-37, 51-62, 76-82 and 84 drawn to an invention nonelected with traverse in Paper No. 8. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

3. The disclosure should be carefully reviewed and ensure that any and all grammatically, idiomatic, and spelling or other minor errors are corrected. For example, on page 6, line 9, reference to "5,415,853" should be --5,415,835--. Correction is required.

Art Unit: 2851

Information Disclosure Statement

4. The information disclosure statement filed November 4, 1999 has not been considered because the PTO-Form 1449 which lists all patents, publications, or other information submitted for consideration by the Office is missing. The examiner respectfully requests the applicant to submit a copy of the PTO-Form 1449 when he/she responds to this office action.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "light quantity control means 217" or "driving mechanism 218" as described in the specification (see page 67 and 68). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Correction is required.

6. Figure 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Claim Rejections - 35 U.S.C. § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 2851

8. The specification lacks adequate explain for the claimed provision “**bight** field illumination”. Thus, it is not understood what is meant by “bight field illumination”. (See page 11, line 11 for example).

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 13-25, 38-50, 63-75 and 83 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The claims are generally narrative and indefinite, failing to conform with current U.S. practice.

b. As to claims 13-25, 38-50, 63-75 and 83, it is not clearly understood how the claimed apparatus can perform its functions as claims. The functional recitations in claims have not been given patentable weight because they are narrative in form. In order to be given patentable weight, a functional recitation must be expressed as “means” for performing the specified function, as set forth in 35 U.S.C. 112, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. *In re Fuller*, 1929 C.D. 172; 388 O.G. 279.

c. The breadth, scope and meaning of the following terms in the following claims are vague and indefinite:

“a common exposure region”

Art Unit: 2851

“auxiliary pattern” claim 20.

“bight field illumination” see claim 16 for example.

“mutual interference” see claims 24 and 49 for example.

d. In claims 23, 48, 73, the recitation of “wherein exposures of the exposure regions under...the exposure region” is murky and not clearly understood.

As to claims 24, 49, 74, the recitation “ wherein exposures....in the different illumination conditions” is ambiguous and not clearly understood.

e. As to claim 14, for example, it is not clearly understood what “small σ and large σ ” stand for. Please clarify.

For the purpose of expediting prosecution, the rejected claims are interpreted in light of the specification under the following art rejections.

Claim Rejections - 35 U.S.C. § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Art Unit: 2851

As best the claimed subject matters are understood, (see rejection under 35 U.S.C. 112, first and second paragraphs, *supra*). Claims are anticipated by references.

12. Claims 13-25, 38-50, 63-75 and 83 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kudo (U.S.Pat. 5,392,094).

With regard to claims 13-25, 38-50, 63-75 and 83, Kudo discloses an exposure apparatus for transferring a same pattern formed on a reticle onto a sensitive substrate comprising all of the limitations of the instant claims such as a first aperture variable means (14) a second aperture variable means (15) disposed in the pupil position of the projection optical system (8) and a control means (12) for controlling the first and second variable aperture stop means (see fig.1).

13. Claims 13-25, 38-50, 63-75 and 83 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Shiraishi (U.S.Pat. 5,467,166).

With regard to claims 13-25, 38-50, 63-75 and 83, Shiraishi discloses a projection exposure apparatus comprising all of the basic features of the instant invention as claimed. (See fig.4).

Prior Art Made of Record

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gortych et al (U.S.Pat. 5,680,588), Taniguchi (U.S.Pat. 5,677,757) and Sugihara et al (U.S.Pat. 5,642,183) discloses exposure apparatus comprising substantially all of the elements as recited in the instant claims.

Art Unit: 2851

15. Any inquiry concerning this application or earlier communications from the examiner should be directed to Henry Nguyen whose telephone number is (703) 305-6462.

Any inquiry of a general nature or relating the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

hvn 12/27/2000


Russell Adams
Primary Examiner